

Title: Math Element Card		
Grade: 7		
PA Core Standard: CC.2.2.7.B.3 Model and solve real-world and mathematical problems by using and connecting numerical, algebraic, and/or graphical representations		
PA Connector:		Set up or select equations with 1 variable based on real world problems.
Strand: Algebraic Concepts		Family: Problem Solving and Using Variables
Progress Indicator: <i>M.PRF.1d using symbolic equations to summarize how the quantity of something changes</i>		
Big Idea(s): Mathematical relationships can be represented as expressions, equations, and inequalities in mathematical situations.		
Essential Question(s): How can expressions, equations, and inequalities be used to quantify, solve, model and/or analyze mathematical situations?		
Foundational Knowledge: <ul style="list-style-type: none"> Record/replace a variable in an equation with a fact from a story on a graphic organizer Create a pictorial array of a simple equation to translate wording 		
Key Vocabulary, Concepts and Symbols: <ul style="list-style-type: none"> Understand concepts and symbols +, -, X, ÷, =, ≠, <, >, Understands concepts and vocabulary: variable, solution, equation, equal, inequality 		
Suggested Instructional Strategies: <ul style="list-style-type: none"> Explicitly teach equals vs. inequality. Explicitly teach strategies for determining the operation required to solve a single step real world problem. Task analysis <ul style="list-style-type: none"> Read a story problem that is personally relevant to the student. Identify what question is being asked (define “x”). Identify the facts and the operation (+, - x, ÷) in the story. Provide graphic organizer or template to organize the facts and write Write an equation to solve for “x”. Add, subtract, multiply or divide the number/value to both sides of the equation. Solve the equation for “x” Show the answer as “x” = ____ Explicit teaching of how to identify what question is being asked (i.e., what “x” represents in the story problem). Provide an equation for which the student will determine a story problem. Create a personally relevant story; Provide graphic organizers as a means for organizing student’s work; Task analytic instruction to break down skills and chain them in order to isolate each step in solving the math task Adding and subtracting strategies Multiplying and dividing strategies 		
Supports and Scaffolds: <ul style="list-style-type: none"> Pictures and manipulatives Template for solving an equation Number line Calculator Counters Multiplication tables 		

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